


TRAFFIC OPERATIONS POLICY DIRECTIVE	NUMBER 03-02	Page 1 of 3
KARLA SUTLIFF, DIVISION CHIEF (Signature) 	DATE ISSUED December 15, 2003	EFFECTIVE DATE December 26, 2003
SUBJECT IN-ROADWAY WARNING LIGHTS AT CROSSWALKS	DISTRIBUTION <input type="checkbox"/> All District Directors <input checked="" type="checkbox"/> All Deputy District Directors - Traffic Operations <input checked="" type="checkbox"/> All Deputy District Directors - Maintenance <input checked="" type="checkbox"/> All Deputy District Directors - Construction <input checked="" type="checkbox"/> All Deputy District Directors - Project Development <input checked="" type="checkbox"/> Chief Counsel, Legal Division <input checked="" type="checkbox"/> Engineering Service Center Director <input checked="" type="checkbox"/> Headquarters Division Chiefs for: Design, Construction, and Local Assistance <input type="checkbox"/> Publications (For distribution to all holders of Traffic Manual)	
DOES THIS DIRECTIVE AFFECT OR SUPERSEDE ANOTHER DOCUMENT? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	IF YES, DESCRIBE NOT APPLICABLE	
WILL THIS DIRECTIVE BE INCORPORATED IN THE TRAFFIC MANUAL? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	IF YES, DESCRIBE Sections 9.05.18 In-Roadway Warning Lights at Crosswalks and 9-05.19 Financing and Maintenance-State Highways	

DIRECTIVE

As follows, Sections 9.05.18 In-Roadway Warning Lights at Crosswalks and 9-05.19 Financing and Maintenance-State Highways are added to the California Department of Transportation Traffic Manual.

IMPLEMENTATION

9.05.18 In-Roadway Warning Lights at Crosswalks

The policy for In-Roadway Warning lights is contained in the Millennium Edition of the federal Manual on Uniform Traffic Control Devices (MUTCD), Section 4L.02, entitled, "In-Roadway Warning Lights at Crosswalks."

The California Supplement to the MUTCD for In-Roadway Warning Lights is as follows:

Support:

In-Roadway Warning Lights are special flashing lights installed on the roadway surface to enhance driver awareness at uncontrolled pedestrian crossings. This includes, but is not necessarily limited to, school crosswalks, mid-block crosswalks, and crosswalks at uncontrolled intersection approaches.

Typical applications of In-Roadway Warning Lights are shown in Figure 9.29.

Standard:

In-Roadway Warning Lights shall not be placed on or within the crosswalk markings.

When activated, In-Roadway Warning Lights shall display a flashing yellow light indication.

If the In-Roadway Warning Lights are activated by a push button, the R62E sign (PUSH BUTTON FOR PEDESTRIAN WARNING LIGHTS, CROSS WITH CAUTION) shall be used.

The following shall be considered when evaluating the need for In-Roadway Warning Lights:

- a. **Whether the crossing is controlled or uncontrolled.**
- b. **An engineering traffic study to determine if In-Roadway Warning Lights are compatible with the safety and operation of nearby intersections, which may or may not be, controlled by traffic signals or STOP/YIELD signs.**
- c. **Standard traffic signs for crossings and crosswalk pavement markings are provided.**
- d. **At least 40 pedestrians regularly use the crossing during each of any two hours (not necessarily consecutive) during a 24-hour period.**
- e. **The vehicular volume through the crossing exceeds 200 vehicles per hour in urban areas or 140 vehicles per hour in rural areas during peak-hour pedestrian usage.**
- f. **The critical approach speed (85th percentile) is 45 mph or less.**
- g. **In-Roadway Warning Lights are visible to drivers at the minimum stopping sight distance for the posted speed limit.**
- h. **Public education on In-Roadway Warning Lights is conducted for new installations.**

Option:

Overhead or roadside Flashing Yellow Beacons may be installed in conjunction with In-Roadway Warning Lights. In-Roadway Warning Lights may be installed independently, but are not necessarily intended to be a substitute for standard flashing beacons. Engineering judgement should be exercised.

9-05.19 Financing and Maintenance-State Highways

When In-Roadway Warning Lights are proposed by Caltrans on State highways, Caltrans shall pay the costs of installation and maintenance. When In-Roadway Warning Lights are proposed and installed by a local agency on State highways, the installation of In-Roadway Warning Lights shall be covered by an Encroachment Permit issued by the local District Director of Caltrans. The local agency shall be responsible for installation and maintenance of the In-Roadway Warning Lights.

BACKGROUND

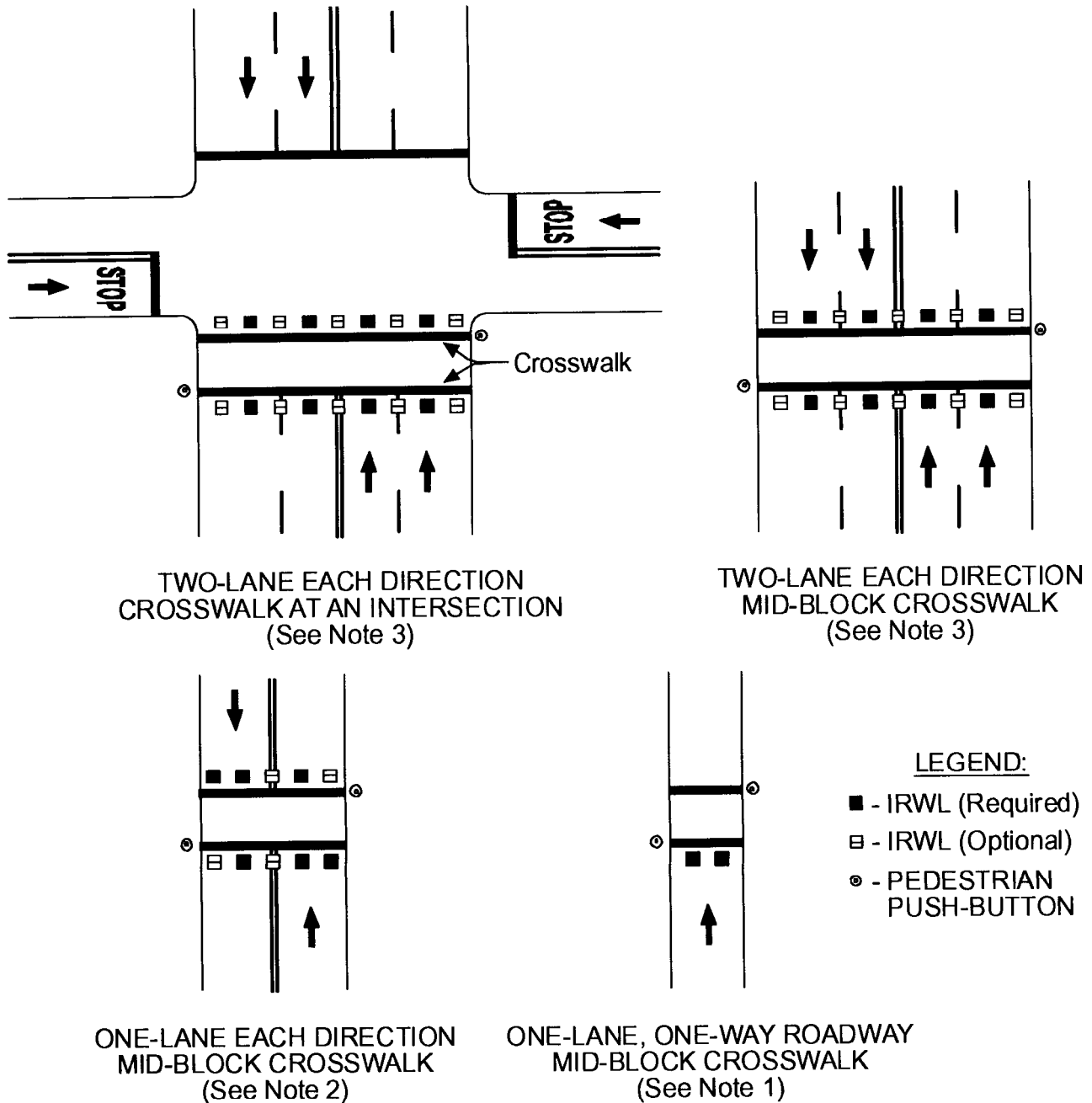
In-Roadway Warning Lights at crosswalks is a new concept used as a supplement to the standard signing and markings to alert motorists about the presence of pedestrians in the roadway at uncontrolled crosswalks. The City of Santa Rosa first installed In-Roadway Warning Lights at crosswalks under experimentation, authorized by the California Traffic Control Devices Committee (CTCDC) in October 1993. Subsequently, the experimentation was expanded and the devices were tested in Petaluma, Lafayette, Fort Bragg and Willits. In July of 1997, a final report was submitted to the CTCDC. The CTCDC determined that the devices had the potential to be an effective traffic control device, since it fulfills a need, commands attention, conveys a clear message, and gives adequate time for an appropriate response by the driver. The initial request from the City of Santa Rosa was in response to an unusually high incidence of pedestrian/vehicle collisions at uncontrolled crosswalks.

Based on the final report, the CTCDC recommended that the Department adopt these devices in California. The Federal Highway Administration has already adopted these devices at the national level and included them in the MUTCD.

Attachments:

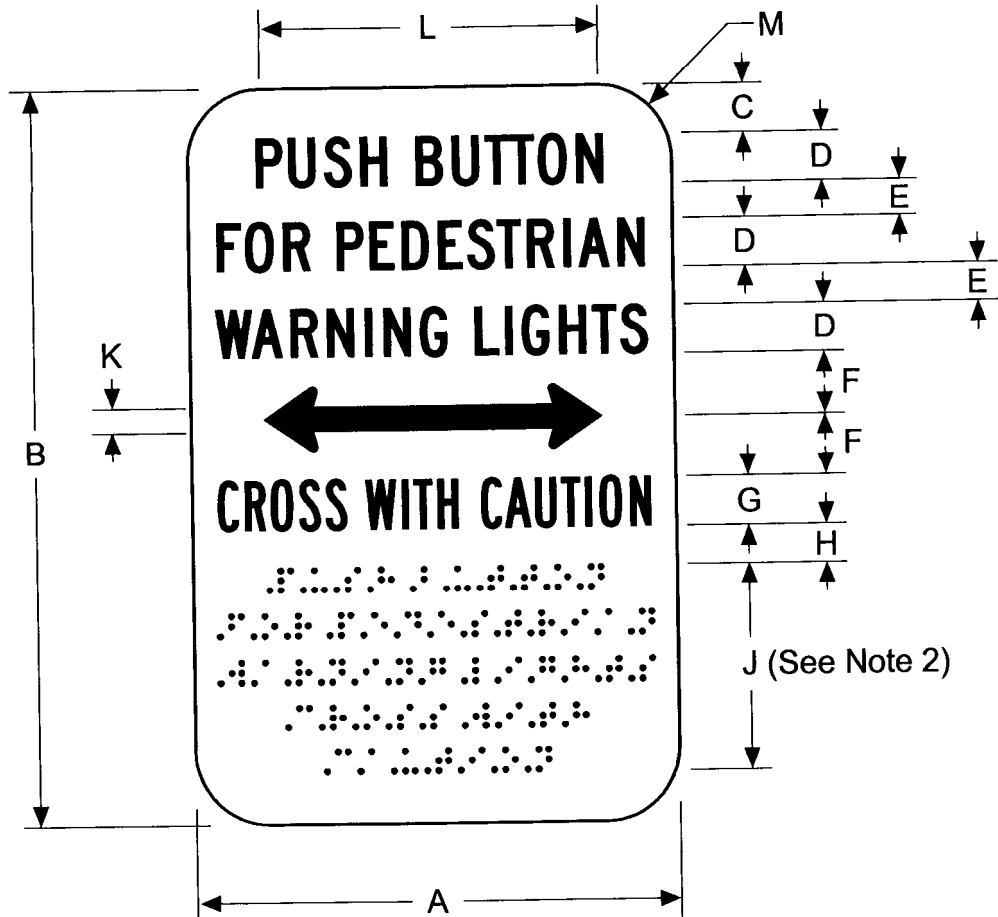
- 1) Figure 9-29, Typical Layout For In-Roadway Warning Lights (IRWLs).
 - 2) R62E Sign Specifications/Policy.
 - 3) Standard Special Provisions.
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Figure 9-29
TYPICAL LAYOUT FOR IN-ROADWAY WARNING LIGHTS (IRWLs)



NOTES:

1. One-Lane, One-Way Roadways, a minimum of two IRWLs shall be installed on the approach side of the crosswalk.
2. One-Lane each direction, a minimum of three IRWLs shall be installed along both sides of the crosswalk.
3. Two-Lanes each direction, a minimum of one IRWLs per lane, shall be installed along both sides of the crosswalk.
4. IRWLs should be located off the tire tracks.

MUTCD NUMBER NoneCODE R62E

NOTES:

1. For arrowhead dimensions, see Appendix Page 2 of 11.
2. Braille Message "PUSH BUTTON FOR PEDESTRIAN WARNING LIGHTS CROSS WITH CAUTION".

SIGN SIZE (Inches)	DIMENSIONS (Inches)											
	A	B	C	D	E	F	G	H	J	K	L	L
5 x 7-1/2	5	7-1/2	1/2	1/2C	3/8	5/8	1/2B	3/8	2-1/8	1/4	3-1/2	3/4
5 x 7-3/4	5	7-3/4	5/8	1/2C	3/8	5/8	1/2B	3/8	2-1/8	1/4	3-1/2	3/4
9 x 12	9	12	1	3/4C	1/2	1	3/4B	5/8	3-3/8	3/8	6	1

SIGN SIZE (mm)	DIMENSIONS (Millimeters)											
	A	B	C	D	E	F	G	H	J	K	L	L
127 x 191	127	191	13	13C	10	16	13B	10	54	6	89	19
127 x 197	127	197	16	13C	10	16	13B	10	54	6	89	19
229 x 305	229	305	25	19C	13	25	19B	16	86	10	152	25

COLORS

BORDER & LEGEND - BLACK (NON-REFLECTIVE)
BACKGROUND - YELLOW (REFLECTIVE)

- THE POLICY FOR INTENDED USAGE OF THIS SIGN IS SHOWN ON REVERSE SIDE -

POLICY: R62E

The PUSH BUTTON FOR PEDESTRIAN WARNING LIGHTS/CROSS WITH CAUTION sign (R62E) shall be mounted immediately above or incorporated in the pedestrian push button unit where In Roadway Warning Lights are installed and a pedestrian actuated system is used.